

Patent
Serial No. 10/691,555

REMARKS

Claims 1-3, 17-18 and 20 have been amended; and claims 4-7, 13-16, 19 and 21-22 have been cancelled. Accordingly, claims 1-3, 8-12, 17-18, 20 and 23-24 are currently pending in the present application.

I. Amendments:

Claim 1 has been amended to recite that process includes preparing an aqueous cleaning solution from a stabilized hydrogen peroxide solution consisting of: (a) hydrogen peroxide in an amount from about 20 to about 70 wt%, based on the entire solution; (b) at least one compound selected from the group consisting of 1-hydroxyethylidene-1, 1-diphosphonic acid, salts and degradation products thereof in an amount from about 10 to about 60 wt% based on the amount of hydrogen peroxide; (c) water; and (d) components other than (a) through (c) in an amount from 0 up to about 10 wt%, based on the amount of hydrogen peroxide. Support for claim 1 can be found throughout the specification and, specifically, in the specification at page 3, line 25 to page 4, line 4. No new matter has been added.

Claims 2-3, 17-18 and 20 were amended to be consistent with amended claim 1. No new matter has been added.

II. The Invention:

The present invention relates to the use of a stabilized aqueous hydrogen peroxide solution having a relatively high concentration of hydrogen peroxide and containing a relatively high amount of a 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP) based additive. The solution is highly stable and unexpectedly remains stable in both the substantial absence of other components and when added to other formulations that contain components which normally have a destabilizing effect on the hydrogen peroxide. The unexpected stability characteristics are due to the presence of the HEDP additive in relatively high amounts.

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III. Rejections:

Applicants respectfully submit that based on the amendment to the claims, the pending rejections are now moot.

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Applicants further submit that none of the cited references disclose, teach or suggest using relatively high amounts of HEDP in hydrogen peroxide solutions (having a relatively high hydrogen peroxide concentration) and in the substantial absence of other components, as presently claimed.

It is the invention as a whole, and not some part of it, which must be obvious to support a rejection under 35 USC §103(a). In re Antonie, 195 USPQ 6, 8 (CCPA 1977). The unsuggested recognition of a relationship between the result produced and the particular design parameters is the touchstone of nonobviousness. A process is unobvious in cases where optimizing a known result-effective variable produces unexpectedly good results or where the art did not recognize that the parameter optimized was a result-effective variable. Id. at 8-9.

The present inventors have found unexpectedly that it is possible to provide an aqueous hydrogen peroxide solution having a relatively high concentration of hydrogen peroxide and containing a relatively high amount of HEDP based additive that is highly stable and remains stable in both the substantial absence of other components, as well as when the solution is added to other formulations that contain components which normally have a destabilizing effect on the hydrogen peroxide.

The unexpected results of using HEDP in relatively high amounts to stabilize an aqueous hydrogen peroxide solution having a relatively high concentration of hydrogen peroxide (and the substantial absence of other components) can be seen in the declaration of David Bonislowski (submitted in related application ser. no. 10/301,760 and attached hereto). Applicants respectfully submit that it was generally believed that high levels of oxidizable organic stabilizers in concentrated hydrogen peroxide solutions would actually have a destabilizing effect (Dec. at ¶ 5). However, a review of Mr. Bonislowski's declaration reveals unexpectedly that HEDP does not exhibit this behavior, while other phosphonic acid based stabilizers do. Contrary

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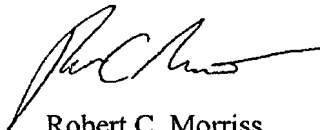
to this belief, HEDP provided a stable hydrogen peroxide solution (containing 35% hydrogen peroxide) even when it was present in higher amounts than other phosphonic acid based stabilizers. (Dec. at p.3, bar graph).

Therefore, Applicants respectfully request the rejections of record, be withdrawn.

IV. Conclusion:

Applicants respectfully submit that the application, including claims 1-3, 8-12, 17-18, 20 and 23-24, is in proper form for allowance, which action is earnestly solicited. If resolution of any remaining issue is required prior to allowance of the application, it is respectfully requested that the Examiner contact Applicants' undersigned attorney at the telephone number provided below.

Respectfully submitted,



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